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Use and Abuse of Protein Feeds

By F. B. Morrison

EVERY farmer naturally wishes to secure as much profit as possible from his farming operations. Yet, many fail to appreciate the basic facts which make profits possible.

No fact has been more clearly proved by the many experiments carried on at the various agricultural colleges and experiment Stations than the fact that balanced rations are absolutely necessary for maximum profits in stock farming. This fact has been clearly recognized by scientists ever since the first feeding standard was worked out by a European chemist in 1864.

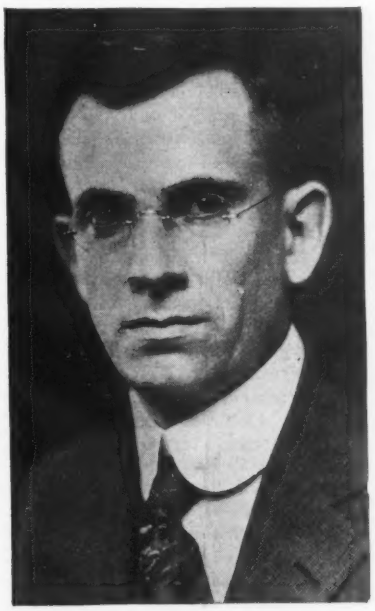
Since then we have adopted into our every day lives the triumphs of modern scientific inventions. Many of us have failed to adopt in a similar manner the discoveries of the scientists regarding efficient stock feeding.

In pioneer days, with land low in price, pasturage abundant, and feed and labor cheap, it was relatively easy to make a profit from stock farming. This was true, though one knew little about the principles which govern the feeding and care of live stock and though he did not understand the value of the different stock feeds.

Conditions have now changed radically. It is less easy for the inefficient man to make profits in farming. Nevertheless, I believe that the future will hold out fully as great opportunities as the past for the farmer who is a master of his profession.

However, we must all realize that to make a good profit from stock farming or any other type of farming in the present and in the future, it will require a much more intelligent and scientific kind of farming than in the past.

We call a ration or daily feed which furnishes an animal with the correct kind and the right amount of the various food materials for its particular needs a balanced ration. Many farmers seem to be afraid of this term "balanced ration." Though they have heard about balanced rations, they have a very hazy idea as to whether the feeds they are supplying their stock provide balanced rations or not. In other words, they do not know whether they are furnishing their live stock with the right kind or the proper amount of the various food nutrients to permit them to make profits.



FRANK BARON MORRISON

Protein is the food material most apt to be lacking in ordinary rations, and protein in abundance is needed by animals to furnish the raw material for the manufacture of meat, muscle, wool, and the protein part of milk. Therefore, the most important part of balancing a ration for live stock is to provide a proper amount of protein in the ration.

Recent investigations show that vitamins and mineral matter are also necessary for efficient rations. Fortunately, however, as is pointed out later in this discussion, these needs can generally be fully supplied by providing stock with good pasture in the summer and with plenty of well cured legume hay in the winter, perhaps with the addition of relatively cheap mineral supplements to furnish plenty of calcium and phosphorus.

It is important for stockmen to realize that the proper "balancing" of a ration often makes the difference between profit and loss.

In an experiment carried on some years ago by the Illinois Experiment Station one lot of cows was fed a ration which was palatable and sufficient in amount, but which was not balanced. These cows were fed all the corn silage they would eat—all the ground corn they wanted, three pounds of clover hay, and all the timothy hay they desired. The chief defect of this ration was that it was very low in protein.

These cows gave twenty pounds of milk a day, a yield which under present conditions is too low to be profitable. This was in spite of the fact that they had good productive capacity.

Later their ration was balanced by feeding sufficient protein-rich feed to meet the requirements of the feeding standards. These same cows then gave over thirty pounds of milk a day, an increase of about fifty per cent.

Numerous other examples might be given which show that an unbalanced ration is inefficient and unprofitable. Any farmer who is feeding his cows, his pigs or any other class of stock such a ration has no license to kick if he does not make any money. He might as well face these facts squarely.

To show how much protein and other food materials the various classes of animals need, scientists have carefully prepared feeding standards. By the use of these tables, together with other tables showing the food materials (digestible nutrients) furnished by the different feeds, one can, after a little practice, work out efficient balanced rations for his animals.

NO ONE expects to get a good mileage from the gasoline he buys unless he has the carburetor on his automobile adjusted correctly. Yet many men pay large sums for feed without knowing whether their purchases will correctly adjust the carburetors of their live stock. In other words, they do not know whether the feeds they supply will provide their stock

with a correct mixture of the various food nutrients, just as the correctly adjusted carburetor provides the gasoline engine with the right mixture of gas and air.

Every stock farmer who looks upon farming as a profession rather then merely as an occupation will take pride in master ing the methods of working out balanced rations. These are no more difficult than the problems of arithmetic he solved in the district school when a boy.

The high quality of the protein in milk is one of the reasons why it is such a good food for the human family. Milk is not only rich in protein, but the protein is of the very sort that supplements the deficiencies of the proteins in the common grains. Therefore, it is important that children receive an ample amount of it.

JUST A few words with reference to some of the pratical applications of these discoveries, to show that these new truths do make a difference in practical stock feeding. I will mention briefly some of the trials we carried on in swine feeding at the University of Wisconsin.

In some of these experiments we fed corn and linseed meal to pigs on good pasture. Maybe some of you think this would make a good, well-balanced ration, for the pigs had plenty of protein. However, they always made much poorer gains than other pigs which were fed corn and tankage.

I am not speaking now from one experiment, but from the results of several experiments. On the average, pigs, fed corn and linseed meal have gained only about 1.1 pounds a day, while those fed corn and tankage gained about 1.4 pounds. Reduced to a money basis, linseed meal fed as the only supplement to corn for pigs on pasture, was only worth about $19 a ton, compared to tankage at $60 a ton. In other words, though the pigs made fairly good gains, the ration was not an efficient or economical one.

The supply of tankage would not be large enough to meet the demand if all those swine raisers used it who do not have skim milk or other dairy by-products for their pigs. Therefore, we began experiments to see whether we could not dilute the tankage, in order to make it go further.

What we did was to mix linseed meal and tankage in equal parts. To our surprise, these pigs did even better than those that were fed corn and tankage. Reducing the results to a money basis, although linseed meal fed as the only supplement to corn was worth only $19 a ton, it was worth $76 a ton when added to a ration of corn and tankage. A surprising difference, indeed.

This simply shows that, as we learn more about feeds, we are able to dovetail them together so as to make much more efficient rations, at least for certain classes of stock.

We have been carrying on experiments for several years to find efficient rations for fall pigs. Farmers in the northern states who have dairy by-products, such as skim milk, available for feeding fall pigs, usually secure quite good results, if they are good hog men. On the other hand, where no dairy by-products are available, often pigs born in the fall fail to thrive and become unprofitable runts.

The ration of corn and tankage has for many years been taken as a standard by the various experiment stations. This ration gives good satisfaction with pigs on pasture, or even for pigs fed in the winter time in dry lot, without pasture, providing they are quite well grown when they are started on the ration.

However, if young fall pigs are fed this ration of only corn and tankage, often several will fail to thrive. This is true, even though the corn which is fed is yellow corn. We have been trying to develop efficient rations which can be used for feeding fall pigs by men who do not have dairy by-products available.

We have tried many different rations, with varying degrees of success. We have finally secured one which is remarkably efficient. This ration is simply corn—it may be either yellow corn or white corn, so far as I know—and, in addition, tankage, linseed meal, and chopped alfalfa hay. In this ration, linseed meal and alfalfa both appear to be necessary. If either of these ingredients are left out, the results are not so satisfactory.

We can recommend this ration to farmers as the best combination which we have thus far developed, and one which will ordinarily give them just as good results with fall pigs as though they had dairy by-products available. We are continuing these experiments still further, in the hope that we will find out other rations which are just as efficient, or perhaps even more efficient.

IN CONCLUSION, let us consider what all of these recent discoveries mean in terms of practical stock feeding. To me, all of these recent experiments conclusively show the high value of legume hay for stock feeding, and the great importance of dairy products in the human diet.

Let us briefly review the merits of legume hay for stock feeding. First of all, you will recall that I discussed the necessity of livestock getting a sufficient amount of protein—in other words, a balanced ration. One of the primary reasons why you should grow an abundance of legumes is because they are rich in protein, alfalfa hay being nearly as rich in protein as is wheat bran.

Next, I discussed the importance of the quality of proteins, and pointed out that legume hay contains protein of the right kind or quality to supplement the deficiencies of the cereal grains.

Other great advantages of legume hay are the richness in lime and in vitamin A and vitamin D, the two vitamins that are apt to be lacking in the rations fed livestock. Legume hay is rich in both of these vitamins, if it is well-cured and green in color.

There are, therefore, all of these important reasons for growing plenty of legume hay on every stock farm. In other words, these recent discoveries in stock feeding, reduced to their simplest terms, emphasize anew the importance of large acreages of legumes in any well-planned system of agriculture.

At the University of Wisconsin the agricultural chemistry department carried on experiments which show these facts plainly. They took young pigs and confined them in cages so that they could analyze all the food eaten by the animals and also all the excrements. Thus, they could tell just what went on within the pig. If a young pig is fed corn grain as the only kind of protein, it will be able to retain or use only about 23 per cent of the protein in the corn grain—less than one-quarter.

About the same result will be secured if the pig is fed wheat, barley, oats, or rye. It does not make much difference which one of the cereal grains is fed as the only source of protein.

If the same pig is fed milk protein, it will be able to use for growth 55 to 60 per cent of the entire protein in the milk. In other words, it can actually turn into flesh more than one-half of the protein on its feed.

LINSEED meal is an excellent feed for livestock, is it not? However, surprizing results are secured when linseed meal is fed as the only protein-rich feed to young pigs. They will be able to use only about 17 per cent of the protein in the linseed meal for growth, or even less than when corn or other grain is fed.

If linseed meal is mixed with corn, a trifle better results will be secured then with linseed meal as the only kind of protein. Even with such a combination the results will not be very good, however, for the pigs will be able to use only about one-third of the protein in the mixture.

However, if corn and milk are mixed together in the right proportion to make a balanced ration, then the pigs will use for growth over 60 per cent of the proteins in the milk and corn combination. In other words, we can take this poor corn protein and mix it with the right proportion of good milk protein and make an exceedingly efficient mixture—a mixture which will be just as good as pure milk protein.

These results are due to the fact that milk protein is richer than linseed meal in some of the building stones or amino acids which corn lacks. Therefore, the rich supply of these amino acids makes good the deficiency in the corn grain. This is an exceedingly important matter in feeding certain classes of stock. In feeding pigs, especially those not on pasture, it is of vital importance.

I have never yet seen good results in pig feeding where a man has fed young pigs not on pasture such a ration as corn and middlings or corn and linseed meal.

Why is this? One of the primary reasons is that the protein in such a ration is not of the right kind or quality.

If some of you have a flock of chickens from which you are not getting many eggs, the fault may be in the ration the chickens are receiving. If they are getting corn, oats, linseed meal, wheat middlings, and wheat bran, do not blame the chickens at all. Blame the quality of the protein in the ration. If you would put some meat scraps or plenty of skim milk in the ration, and be sure that the chickens are provided with enough mineral matter, they would be able to manufacture more eggs, because they would have the right kind of raw material.

In all stock feeding operations, look at your animals simply as machines which convert the product of your fields into finished products, like meat, eggs, etc. You must have the right kind of raw material and in the proper amount.

This is a matter of vital importance in swine feeding. For instance, in one experiment we have carried on, pigs that were fed barley and linseed meal gained only about a pound a day. On the other hand, pigs which were fed barley and whey gained over two and one-half pounds a day. These were well-grown feeder pigs, and, therefore, were capable of making large gains under favorable conditions. This is an exceedingly interesting result, because whey is not very rich in protein, but yet the pigs produced remarkably efficient results.

As you of course know, most of the protein in the milk goes into the cheese, leaving only eight-tenths of one pound of protein in every 100 pounds of whey. Yet it so happens that this small amount of protein is of the very kind that is necessary to supplement barley protein. Therefore, the combination of barley and whey makes an exceedingly good ration for pigs.

Very young pigs need a larger amount of protein than is furnished by barley and whey; therefore, they should be fed some protein-rich feed in addition. On the other hand, for well-grown pigs weighing 150 pounds, barley and whey alone make and efficient ration.

In feeding dairy cattle and also beef cattle, the quality of the protein is not of so much importance, providing you have such good roughages as legume hay and corn silage. This is because the proteins in legume hay and in corn forage are of quite good quality. Therefore, if dairy cows are fed alfalfa or clover hay, with corn silage and farm grains, there is no necessity of worrying about the quality of the proteins in the ration. You can buy whichever protein-rich feed is the cheapest for you to use.

On the other hand, in pig feeding, as I shall mention later, the quality of the protein may make all the difference between profit and loss.

What about feeding boys and girls? Here again, the quality of the protein is of tremendous importance. I have seen children come to a district school bringing lunches which were decidedly unsuitable. What did they bring for lunch? Bread (sometimes bread spread with butter, but sometimes with oleomargarine), jam, coffee (sometimes without cream), and pickles, pie, or cake. This is an exceedingly poor diet for a young, growing child. The proteins in such a diet are about as unsatisfactory as in the inefficient ration I mentioned that the pigs on barley and linseed meal received. Also, there was not enough protein in such a diet. Furthermore, there were other deficiencies.

SINCE it is a matter of much practical importance to determine whether dairymen can provide a simple, cheap home ration which will maintain high dairy production, extensive experiments were carried on at the Wisconsin College of Agriculture to study this matter.

During two winters we fed cows in our pure bred dairy herd a ration consisting of alfalfa hay, corn silage, and a mixture of half corn and half oats (all home grown feeds) in comparison with a ration made up of the same feeds plus a mixture of linseed and cottonseed meal.

In the first experiment each group of cows was continued on the same ration throughout the entire winter period. This was done as it seemed possible that the home-grown ration might maintain a high production for a brief period, but that the amount of protein in the ration might be too low to keep up the production throughout the winter. In the second trial the double reversal method was used so as to eliminate the effects of the individuality of the cows.

In each trial of home-grown ration containing no purchased concentrates maintained the yield of milk and of butter fat as well as the ration to which linseed meal and cottonseed meal had been added.

These trials, together with the results of nutrition experiments previously carried on by the agricultural chemistry department at Wisconsin, show that when cows have plenty of choice alfalfa hay, there is no need of purchasing expensive protein-rich concentrates to keep up good production. This means that alfalfa hay is sufficiently rich in protein to balance the ration when combined with corn silage and a mixture of such farm grains as corn and oats or silage and oats. In these trials the nutritive ration of the home-grown alfalfa hay ration was 1:6.8 to 1:7.1. These are approximately the nutritive ratios recommended for general dairy production.

For cows forced to maximum production on official tests, it is undoubtedly desirable to increase the amount of protein in the ration by the use of purchased protein-rich concentrates, even when plenty of choice alfalfa hay is available. With such animals the desired object is the largest possible yield of milk without much regard for the economy of production.

Even where dairymen purchase all or nearly all of the concentrates they feed their cows, it is exceedingly important for them to realize that the amount of protein they should have in the concentrate mixture they feed should depend on the kind of roughage the cows are receiving.

For example, with all the good alfalfa hay the cows will clean up twice a day, plus corn silage, the concentrate mixture for cows producing as high as 1 pound to 1.25 pounds butter fat a day need not contain more than 16 per cent protein. On the other hand, if there is available only protein-poor roughages, such as timothy hay with corn silage, a concentrate mixture containing 22 to 24 per cent protein is necessary for cows of the same productive capacity.

In determining the amount of protein-rich feeds to use, the dairymen should not forget to take into consideration the manurial value of different concentrates. While the manure resulting from feeding a ton of farm grain has a value of only five dollars to six dollars, the high-protein concentrates have a much higher manurial value.

The question is often asked, "Is it dangerous to feed dairy cows a much larger amount of protein than recommended by the feeding standards?" This depends, first of all, on the kind of protein-rich feeds which are fed in large quantities. Without question, the feeding of too much cottonseed meal may be injurious to dairy cows and other livestock. This is due primarily to the fact that cottonseed meal contains more or less of a poisonous compound known as gossypol.

There should, however, be no fear in using a reasonable amount of cottonseed meal for dairy cows. When fed in a suitable ration, along with silage in the winter and pasture in the summer, as much as 2 to 2.5 pounds per head daily may be fed with entrie safety. In the South as much as 3 to 4 pounds a head daily has been safely fed for long periods as part of a suitable ration.

In general, the feeding of excessive amounts of protein throws a heavier load than usual on the liver and kidneys in getting rid of the superfluous nitrogenous material. This is perhaps the reason why bad results may follow when cows on official tests are fed an unusually large allowance of protein-rich feeds, unless extreme care is taken in feeding such rations.

Proteins are exceedingly complicated compounds, made up of many different building stones, which the chemist calls "amino acids". Scientists have recently discovered that some proteins contain all the different kinds of amino acids, while others are incomplete, and do not contain certain of these "building stones."

They have furthermore found that animals need for growth and even life itself all of these (*Continued on page 219*)

Rural Electricity and the Home

THE KITCHEN OF A WELL EQUIPPED HOME
Electric Fixtures Throughout Characterize the Model Home of Today.

AS ELECTRICITY reaches the rural sections more and more, the farmers and homemakers will need to know about how to use it. This last Farm and Home Week, there were lectures and demonstrations by the rural engineering department and Home Economics College showing proper housewiring and lighting. The department also had a large number of electrical appliances and house furnishings.

The demonstrations and lectures were in charge of F. B. Wright of the rural engineering department. He was assisted by G. E. Morin, Alma Scidmore, and M. J. Robinson of the Home Economics College. Miss Morin and Mrs. Scidmore selected the furnishings and decorations. Miss Robinson helped select the equipment.

The exhibits included a completely furnished kitchen, dining room, and living room. They were all completely equipped with electrical appliances and properly furnished. The furnishings were selected to show how new furniture could be blended with old. Expense was considered too, and the curtains and draperies were inexpensive but harmonious. The rooms showed how a few simple things could make a room attractive and liveable.

In the kitchen, part of which is shown here, everything was arranged to give the housewife a convenient, pleasant work room. The electrical apparatus included a refrigerator, a range, a dish washer, and a food mixer. It had that great boon to the farm woman, a complete water system. The water was heated by an electric water heater. The range was one of the kind in whose oven you put the supper and go to town for the groceries and forget about it. The clock turns the heat on and the heat is regulated so that when you come in it is all done. The central light eliminates shadow. The switch for it also had an outlet in the bottom for a flat iron. There were local lights at the sink so you would not be working in your own shadow. There was a power outlet by the table for the food mixer, toaster, or grill, and one by the refrigerator. Every farm woman who saw it probably desired a kitchen like it, so spotlessly white and convenient with all the labor saving devices that are so needed on a farm.

Each room had an electric clock which was designed for the room it was used in. You never have to wind one of these clocks, just plug it into an outlet and it runs.

When wash day comes around, there were electric washing machines and ironers and then, to help with the mending, an electric sewing machine.

During the spring house cleaning, the electric paint sprayer would be handy, and every week the electric vacuum cleaner would be useful. There was a handy pick-up motor for the cleaner in place of the usual lot of attachments that soon find their way to the attic. A wax attachment for the cleaner was also shown. This would be a good investment for homes with hardwood floors.

In the dining room, the only new pieces of furniture were the chiffonier, buffet, and the chair at the left. The four straight back chairs were so old they once belonged to President McKinley. The dish rack at the right was made at home.

In the living room was an all electric radio and a victrola.

EVERYWHERE there were lights and plenty of them. They were bright or softly shaded as need be, from the brilliant one in the center of the kitchen to the softly shaded one by the sewing machine. They were in all shapes too. There were the candelabra in the dining room and reading light that could be clamped on any where.

In case the power line does not reach the farm, home lighting plants were demonstrated, for electricity is practical on most all farms now.

The rural engineering department will be glad to be of any service in helping solve your electrical problems.

A MODEL DINING ROOM
A Good Dining Room Must Combine Ease of Service, Comfort, and Convenience.

Eggs and the State

By A. Van Wagenen

EGGS are one of the most complete foods of the present day. Who could ask for more than a pair of fresh eggs, fried, soft-boiled, poached,—how do you like them? Eggs are just as tasty and beneficial when mixed in cakes and other foods, but a fresh egg can be consumed with pleasure and delight alone, unmixed with other substances to disguise its taste. How can one tell when one gets a fresh egg before he eats it? The average consumer has no knowledge of the methods of testing the quality and freshness of an egg before he actually eats it and furthermore does not care to bother with such an operation each time he buys eggs. Therefore he must trust to the retailer to give him that quality of egg which he asks and pays for. Before March, 1927, when the "Better Egg Bill" became a law, the buying of egg was a sort of hit and miss operation, the customer relied upon his confidence in the retailer and luck. To quote Chief Inspector F. A. Jones of the New York State Department of Agriculture:

"Until recently, buying eggs was something like buying a cat in a bag. If the eggs on display had all white or brown shells, were clean and decorated with signs reading—*JUST FROM THE FARM, NEW LAID, JUST RECEIVED*, and the like, and the price high, the consumers took it for granted that they were getting fresh eggs. Many cold storage eggs were sold under such captions without detection."

Who of us, before the passage of this law, has not bought eggs labeled *STRICTLY FRESH* or some such similar impressive title and taken them home, only to find several of each dozen in a decided state of purefaction. No redress could be had except as could be obtained by threatening the dealer to discontinue trade if it happened again. But even this threat could accomplish little in the way of definite results and better eggs.

Of course, at this time there was in force a cold storage law that required eggs all stored and sold in the State to have marked on the case the dates on which they were placed in and removed from storage and also when retailed that they should be labeled storage eggs. The difference in price between fresh and storage eggs led many dishonest dealers to seek methods of evading the law. Many clever dodges were devised and put into operation. It was a simple matter to store the eggs in another state and then ship them to the New York State markets without being labeled or in anyway identified as storage eggs. Eggs not held in storage in the State could not be acted upon by the cold storage law. Another very simple method of evasion was the transferring of eggs from the marked cases to new cases and so obliterating all traces of their existence in storage. This practice of evading the law became so general and could be practiced in so many different and undetectable ways that even the honest dealers were forced to practice evasion to meet the competition of the dishonest. The retailers began to call eggs that looked well and could pass muster on external appearance fresh, and those that did not, storage, whether the eggs had been in storage or were fresh. The eggs were graded on purely external appearances and not upon quality. The net result was that the consumer, getting the poorer quality eggs labeled "storage" acquired a sense of distrust for storage eggs that clings to them to the present day. Oftentimes even the supposedly better grade of eggs, called fresh, were of a decidedly questionable quality. The final result was that the customer became distrustful, not only of the storage eggs, but all eggs in general and consequently consumption decreased due to the gamble the customer had to take each time he bought eggs. The State Legislature recognized this situation in the egg industry and passed in March 1927, the Better Egg Bill. It was signed by the governor and became a law. This law made it a misdemeanor to offer for sale or sell any egg unfit for human consumption, placed certain restrictions on the use of the term 'fresh' as applied to eggs and removed the former restrictions on the sale of cold storage eggs. It provided, instead of the former external appearance, hit or miss quality method of sales, a basis of specified grades and standards for the sale of eggs. The commissioner of agriculture and markets was to establish and enforce these grades. The commissioner established a set of grades and they became effective on September 12, 1927.

THESE grades were five in number, based upon those all ready established by the United States Government as standard of quality for individual eggs on a basis of interior quality, shell texture, and uniformity of size. The grading to be done by candling and in case of any dispute, the candling test for interior quality should be used to determine the grade in which an egg belonged. The tremendous change that would be brought about in the retail trade by the immediate enforcing of these requirements was realized and so, as a temporary measure the fifth grade of unclassified eggs was inserted in the standards. This grade was made to give the dealer who had not learned the grades and method of grading an opportunity to do so and sell his eggs without grading provided they did not contain any that were unfit for human consumption.

The fact that the measure was passed but with no provision for funds for enforcement made it necessary for the department of agriculture and markets to remove men from other activities and train them in egg candling and grading. As a result the work of enforcement was slow and largely of an educational nature for the first year. The retailers had to be taught the grades before they could be expected to grade their eggs. The unclassified grade was a means provided to tide over the interim while they could learn the grades. The dealers apparently took little or no interest in grading and immediately began to abuse the privilege granted them by placing all their eggs in the unclassified grade without making any attempt to learn to grade them. The result of this action was that quality grades did not appear in general and when they did a great many of the eggs did not meet the quality of the grade in which they were placed. The good quality eggs and the poor were mixed together, and the consumer was no better off then before in the matter of buying quality and getting what he paid for.

The abuse of the grading law hurt other people as well as the consumer. The producer who raised a quality product, graded, and handled them as such saw his eggs placed in the same class with those of his neighbor who gathered his eggs when the mood urged and shipped them when he thought he had held onto them long enough, as well as with eggs that had been held in storage. Consequently the good producer was penalized and failed to get the additional profit his product deserved. Under the spirit of the law the eggs thus produced as good quality would be placed in a suitable grade and would receive a suitable price and the poorer quality product would receive only what it was worth. The producer antagonism thus aroused was further increased by the misinformation given by dealers that the low prices were caused by the law which enabled storage eggs to compete actively with the fresh as produced by the farmers by removing the cold storage restrictions and pooling all the eggs in the same grade.

It is interesting to note in this connection that according to good authority, of all the cold storage eggs found in the retail trade and tested, only five to ten per cent could meet the grade of a reasonably fresh egg. Can such a small percentage of cold storage eggs, which must be of good quality to meet the grade in the first place, affect to any great degree the price of fresh good quality eggs? Apparently not, because in spite of the reported decrease in price by

dealers due to the removal of eggs from cold storage law, the average price of eggs for 1928 was above that for 1927, before the law became effective. This is also in spite of receipts at the larger markets being heavier and the imports greater in 1928 than in 1927.

The problem of removing the possibility of the abuse of the privilege granted by the inclusion of the unclassified grades has become of greater and greater proportions and has attracted sufficient attention so that there are at present several proposed amendments to the "Better Egg Bill" up for hearing an possible enactment. The first of these is the removal of the unclassified grade from the law and the selling of all ungraded eggs as grade "C," the lowest of the present grades that are considered edible. This amendment will force the retailers (*Continued on page 218*)

Transformation of Living Energy During Incubation

By Alexis L. Romanoff

A FRESH egg contains a large amount of highly nutritious food materials. Among these are: proteins, fats, carbohydrates, and minerals. They constitute a complete and well-balanced ration provided by nature for the development of the embryo. The yolk and the white (albumen) of the egg contain the food materials in a form ready to be consumed by the growing organism. Their completeness and availability cause the growth of the embryo to proceed so rapidly that at the end of three weeks of incubation the fully-developed chick appears.

The accompanying chart illustrates the composition of an egg weighing 60 grams before incubation and the proportions of chick, unused yolk, and shell with other waste matter when the process is complete. The loss of 10 grams during incubation may be accounted for by the chick's exertion of living energy in transforming the food materials by the metabolic process. Building up and breaking down in the organism go hand in hand, and they manifest themselves in four measureable factors, as follows:

1. Evaporation of water..... 11 grams
2. Excretion of carbon dioxide..... 2 grams

Total loss..... 13 grams

3. Consumption of oxygen..... 3 grams

Total gain..... 3 grams

Difference..... 10 grams

4. Heat elimination..... 20 Calories

During these processes every part of the egg is properly utilized, and but little of the waste matter is left. The proteins are used for the building of tissue, the fats for energy and heat production; and the minerals, including those of the shell, primarily lime (calcium), are used for the formation of the bony structure of the chick.

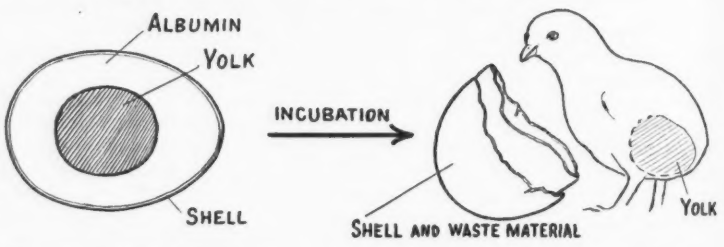
THE FOREGOING discussion suggests that the process of the incubation is not a simple one. Though the embryo is hidden within the egg, it obeys, just the same, all the laws of nature governing living organisms. It grows and maintains life through the same processes as other animals do; namely, respiration, nutrition, assimilation of food, and excretion of the waste matter.

On the other hand, the embryo, unlike other animals, depends upon the quality of food materials already stored in the egg and also upon the surrounding environment. The proper environmental conditions of incubation are:

1. Heat—to promote growth.
2. Ventilation—to supply oxygen and remove carbon dioxide.
3. Moisture—to prevent excessive evaporation.
4. Exercise (turning) — to stimulate growth.

Since the quality of eggs and the environmental conditions vary, we should expect variation in the efficiency of transformation of living energy from the egg to the chick. Therefore, in practice, the strong, vigorous, healthy chicks may be produced only from good eggs and under the right kind of environmental conditions of incubation.

TRANSFORMATION OF LIVING ENERGY FROM THE EGG TO THE CHICK



BEFORE INCUBATION

	Weight (Grams)	Heat Value (Calories)
Yolk	20	60
Albumen	30	30
Shell	10	Trace
Total	60	90

AFTER INCUBATION

	Weight (Grams)	Heat Value (Calories)
Body of Chick	30	40
Unused Yolk	10	30
Shell, etc.	10	Trace
Total	50	70

ANALYSES:

Egg Contents (50 gr.)	Grams	Per cent	Chick (30 gr.)	Grams	Per cent
Total Solids	12.5	100.0	Total Solids	6.0	100.0
Organic Matter	12.1	96.8	Organic Matter	5.5	91.7
Protein	6.8	54.4	Protein	3.5	58.4
Fat	5.0	40.0	Fat	2.0	33.3
Carbohydrate	.3	2.4	Carbohydrate	Trace	Trace
Inorganic Matter	.4	3.2	Inorganic Matter	.5	8.3
Calcium	.05	.4	Calcium	.2	3.3
Phosphorus	.2	1.6	Phosphorus	.15	2.5
Others	.15	1.2	Others	.15	2.5

A. Romanoff

The 4-H Poultry Club Projects

A Resume of Some Outstanding Boy Poultry Leaders

PICTURE—a boy of 13, living in the rural districts of one of the hill sections of New York State. As one of his many farm chores, he has had wished on him the job of caring for the chickens, which consist of a flock of 50 scrub hens, all breeds, all sizes, all colors, and all ages; feed is high and scarce, during the winter very little is fed, the strongest survive, and spring finds a sorry looking bunch. The lad enrolls as a member of the 4-H poultry club in his neighboorhood, rears a flock of late-hatched chicks, and at the county fair exhibits his best cockerel and pullet.

A second picture—but a few miles away in an up-to-date community of the same county lives a lad of about the same age. He also enrolls in 4-H club work and with the advice and assistance of his neighbor, a successful poultrymen, rears a flock of choice well-bred chicks from high-producing stock exhibiting his best cockerel and pullet at this same county fair.

Both boys listen while the judge gives his decision, the blue ribbon is placed on the pen belonging to lad number 2. Boy number 1, sportsman like, congratulates the winner, bags his chickens, throwing the gunny sack over his shoulder, returns home making a solemn resolution to win the coming year. With the advice and assistance of the county club agent, the following year he comes back to the county fair, with the best that money can buy. This pair is not brought in a gunny sack sack but in a neat home-made coop.

He gets the biggest kick of his life, to date, when he sees the judge pin the blue ribbon on his coop. No more scrub chickens for him. He asks questions, reads bulletins and articles on the subject of rearing and keeping better poultry, and does not stop there but puts into practice what he has read.

SOME 4-H POULTRYMEN

The names and achievements of some 4-H boys who have developed excellent polutry flocks follow.

Leo Chamberlain, whose picture appears on this page, has been a 4-H club member for several years and has developed an excellent flock of purebred White Leghorn and Rhode Island Red polutry. He represented New York 4-H club members at the poultry judging contest, Madison Square Garden, in 1927. Leo has trap-nested his flock and developed a strain of exceptionally high producers. During the last year he won high honors in the New York State egg laying contest for both 4-H club members and adult poultry farmers. His hen won a Grand Championship prize in the 4-H club exhibit at the New York State fair, last fall.

John Lummuka, Newfield, has the largest 4-H flock in Tompkins County. He has over 300 White Leghorns.

Howard Harrison, East Masonville, Delaware County, is 19 years old and has a flock of 425 White Leghorn hens.

Dean Fisher, Warsaw, Wyoming County, keeps a flock of 300 White Wyandottes and 100 Black Jersey Giants. He is 15 years old.

Thomas Healy, Honeoye Falls, owns a home farm flock of 100 birds.

A FEW years later, proud of the boys success, the parents have turned over the care of the farm flock, giving him full charge. Gradually he has increased the size and improved the quality of his poultry until, by using good methods, keeping records as a member of the Home Egg Laying Contest, together with the study of marketing, he now owns a flock of money-makers which are laying eggs the year round.

One year, as a member of the winning agricultural demonstration team in the county, he won the trip to the State fair, living at Camp Pyrke, with 300 4-H Club members from different counties of New York State. Another year, high man at the county 4-H poultry judging contest—he won the trip to the State 4-H poultry judging contest at Ithaca, New York—there he was one of the three highest scoring individuals, which comprise the team to represent New York State at the National 4-H poultry judging contest held at the Madison Square Garden Poultry Show, New York City. Making these trips throughout the country, he comes in contact with a worth-while class of men and women, boys and girls from north, south, east and west—an education in itself. He is no longer the backward diffident country lad of a few years ago. Giving demonstrations before the public, and conducting club meetings he has acquired self-confidence and is able to express himself in an intelligent manner.

As a result of his club work and club play, he is interested and takes a prominent part in all activities for the betterment of his community. In New York State, there are 2300 4-H polutry club members—many of whom are of the above type. Because of their ..iking for poultry keeping, together with their affiliation with the 4-H club in the community, these boys and girls have developed the 4-H's—Head, Heart, Hands and Health—and are citizens of whom we are proud.

The requirements for poultry club members this year are, in chicken growing, set at least 60 eggs or buy 30 day old chicks. Project includes rearing and management of the chicks until pullets are matured in October. Whenever possible it is recommended that the project include the entire number of chicks to be raised on the farm.

LEO CHAMBERLAIN
He Has Developed an Excellent Flock of White Leghorns and Rhode Island Reds which Have Proven Excellent Layers.

Through Our Wide Windows

A New Creation

OUR campus, particularly the Ag campus, is overly organized, which is quite often common to university campuses everywhere. The list of organizations to which we are all eligible may include some seven or eight clubs, sororities, fraternities, associations, and what not each of which fulfills certain definite, though limited, purposes. Each has its own organization, its own officers, its own committees, and specializes, to a certain degree, in certain fields. They are individual, quite often small, and in many instances competitive. We then have a picture of our upper campus student organizations, a group of small interests without any real connecting link or unifying influence.

A second attempt is being made to supply this link in the newly formed Ag Home Ec Association. The purpose of the Association is primarily that of unifying and solidifying the upper campus in those activities in which each group is interested. Every member of either the College of Home Economics or Agriculture will automatically be a member of the Association, though the control will be in the hands of an executive committee made up or representatives of every one of the upper campus groups. Thus we would have a typically representative body, the only type which could possibly be effective for a body as large as the Association would be.

The experience with the failure of the Ag-Domecon Council should be a good lesson in the placing of responsibility. It is apparent that its failure was imminent because there was little or no responsibility placed on any particular individual of the council; consequently little or nothing was done and it died a natural death. This should be borne in mind by the organizers of the new Association, so that when it functions, it will function smoothly and quickly, and carry the weight that it should.

The new Association is indeed worthy of our whole hearted support, and though its functions are few, they necessitate a strong, representative organization which it is hoped that the new Association will supply.

Corn Borer

IN the Post Office downtown hangs a poster which proclaims to all who chance to look that way that we are quarantined aginst the European Corn Borer. It tells the conditions under which corn may be shipped, necessary inspection, and other details, but the most significent thing it tells is the area quarantined. The spread of the pest is appalling. Practically all of the North Eastern states are under quarantine and the restrictions apply as far west as Indiana.

We have the borer with us; now how well will we work together to keep him under control? In the East where most of the corn is grown for silage it is entirely possible to keep the borer under control. By plowing stubble under deeply, and burning weeds and rubbish we destroy the borer's winter home. Careful fitting in the spring will prevent bringing this material to the surface, and we can keep the number of borers small. There is no danger of their living long in the silo. Although most farmers know these precautions, the question is, will they carry them out? If we wait for the borer to prove his destructiveness, as was done in some parts of Canada, we will have complete crop failures before long. If even a few farmers neglect to clean up their fields, enough borers will live over to ravage a large region, for the moths which appear in late spring can fly as far as twenty miles in one night, and each female may lay eggs all along her route.

Perhaps we are selfish to consider our own problem first, when that in the corn belt is so much more serious. Even though their cropping system is not as well adapted to borer control as ours we mustn't feel too sure of our safety from loss. We may have to have laws to compel all farmers to clean up their fields in the fall, to prevent one man's negligence from injuring hundreds.

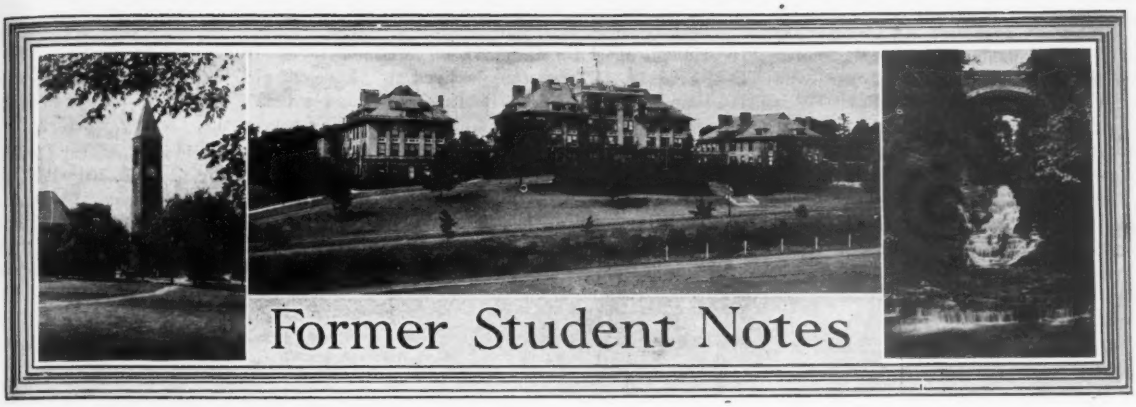
Legislating for the Farmer

OUR State legislature at Albany, with the help of the Governor, seems to have begun a series of acts which will undoubtedly have their effect on the farmers of the State. It is apparent that the executive and legislative bodies are in accord, at least in purpose, with giving all possible aid to the farmers of the State, as true as it is that their methods may be different.

The new tax on gasoline, the egg classification bill, and the appropriations bill for the State Colleges of Agriculture and Home Economics are the most recent innovations which will have their effect on the farmers of the State. The gas tax is designed to help in the building of roads which are bound to help the farmer. It is an equitable means of supplying the necessary funds for this purpose. Under this plan the users of the highways will pay in proportion to the amount they use the roads and the benefits that will be derived from better roads, particularly to the rural population, will be immense, and have a far reaching effect on property values, market conditions, and home improvement.

The better egg bill is another bill which may be effective, at least to our poultry raisers and consumers. The consumer will be better protected from shady practices of unscrupulous merchants who are apt to take advantage of the public's inability to tell good eggs from poor eggs and at the same time it will have a tendency to stabilize the wholesale price of eggs. There seems to be a question as to what it will do to the farm price of eggs, though it seems that it will be a great help, praticularly to the producer of fancy eggs, and it should not greatly reduce the price of the medium grades. It is particularly aimed at retail unfairness and should thus tend to help the farm prices and other market conditions to make a quicker sale at a greater price.

The Governor wisely vetoed the blanket appropriation bill for the College budget, and it is expected that a detailed bill will soon be forthcoming to cover the expenses for the year. It is expected that under the new bill that a great deal of red tape will be done away with which was necessitated by the wording of the vetoed bill. We may expect that the Legislature and the Governor will accomplish much for our agricultual interests with which both parties are in sympathy.



Former Student Notes

'09

C. S. "Tommie" Scoon is farming on his father's farm at Geneva. The farm has been in the family for generations, but "Tommie" is trying something new. He has given up feeding steers for a breeding herd of about twenty Aberdeen-Angus. Last year, his first in the new enterprise, he had some hard luck when three of his cows were struck by lightning, but he is still enthusiastic over the venture. He raises cabbage and a few other crops in addition to taking care of his breeding herd. He may be reached at Geneva, New York.

'12

Mr. and Mrs. F. E. Andrews announce the arrival on January 24 of Roger. Mr. Andrews is foreman of the instruction plant in the poultry department.

Fred H. Cockell has a large hatchery near Milwaukie, Oregon. He has 60,000 egg capacity and has built a large and profit able business about his "husky chicks".

'14

One of the leading recent successes of former men on the hill is that of Roy T. Argood. On January 10 he was awarded one of the four gold medals annually presented by the Massachusetts Department of Agriculture for meritorious service in that state. He is now head of the poultry department at the Norfolk County Agricultural School. His success as a teacher is a prominent example of the success of some of our graduates in the educational field. Mr. Argood has had several appointments since leaving Cornell including instruction work in Michigan, Illinois, New York, and finally Massachusetts. He has also taken various courses in principles and methods of education at Harvard summer school, Cornell short courses, Boston University, Massachusetts Agricultural College and University extension. At the Norfolk County School, where he has been since 1919 he has developed a model Rhode Island Red plant with 500 laying birds and 100 breeders and other equipment that goes to maintain such a plant. By trap-nesting and pedigree hatching, in the past four years he has developed a strain of high producing birds among which is Lady Norfolk who produced 305 eggs for the year ending October 26, 1928. She is the first 300 egg bird of any variety in Norfolk county. Gold medals for teachers in the prosaic art of making a hen lay are not common so it may be well understood that Mr. Argood has achieved an exceptional and unique success for which he has been duly rewarded. Congratulations Roy.

ROY T. ARGOOD AND LADY NORFOLK
Lady Norfolk Has Proven Herself to be an Excellent Hen and the first 300 Egg Bird in Norfolk Country.

'16

A second daughter was born on March 5 to Royal G. Bird and Mrs. Bird (nee Barbara Kephart '21). Royal is putting his forestry to practical advantage with the International Paper Company. Their home is in Pleasantville, New York.

'17

On February 17 a son Herman Andrew, Jr. was born to Mr. and Mrs. Herman Andrew Hanemann. He is assistant director of the Bureau of Markets, Pennsylvania Department of Agriculture at Harrisburg. His home is at 509 Sixteenth Street, New Cumberland, Pennsylvania.

'18

'Doc' Robson was back to Farm and Home Week. He is raising seeds near Geneva.

"C. J. Morgan '21 is Scout Executive for the county of Sussex with his address at Newton, New Jersey.

'22

F. Murray Wigsten is now with the Central Hudson Gas and Electric Corporation. He is working on the development of the Rural electric lines. Murray was formerly Farm Bureau agent of Ulster County.

"Roy Crissey '22 is farming his father's farm at Glenwood, New Jersey, specializing in fruit. Roy is not married."

'23

H. 'Hank' Arnold is farming near Canandaigua near Fred Henry also '23.

Horace C. Bird and Mrs. Bird (Aurelia D. Vaughn '23 A.B.) live on route 1, Medina. Bird works on their farm in the summer and is with the Merchants Despatch in the winter.

Mabel A. Blend is teaching foods in the Frances Scott Key Industrial Demonstration School in Baltimore. She has been there most of the time since she left Cornell. Her daughter, Ruth Abbey, is a freshman at Eastern High. Her address is 2223 North Calvert Street, Baltimore, Maryland.

Since graduation Jean D. Blue has been teaching in high schools. From 1924-1927 she taught domestic science in the South Park High School in Buffalo. She is now teaching homemaking in Hammondsport.

Edmund R. Bower has been utilizing his floricultural education in the growing of flowers and vegetables under glass. He is in business with his father where he has been since 1927. For the preceding three years he was with the Peter Henderson Seed Company of New York City. He is married and his address is 176 Coleman Avenue, Elmira.

Esther Hall Brace as yet has not been lured from the paths of teaching. For two years she taught science and homemaking in the Farmington State Normal in Maine. Now for the past three years she has been teaching in the Richmond Hill High School, Richmond Hill, New York. Her address is, 8405-112th Street.

Florence T. Broadbooks is making use of her floriculture work in Rochester. She is a landscape architect in that city and holds forth at 306 Hiram Sibley Building, Rochester.

As Sydney Brooke says, "Am trying to get rich but unable to locate the proper formula." He thinks he possibly has found it in selling plumbing supplies. He is married and has one daughter, Anne. His address is 1167 Colgate Avenue, Bronx, New York.

Arthur J. Collins, Jr. is married and has one child, Cynthia Emily. His wife graduated from Bryn Mawr in 1923. Arthur is a nurseryman and fruit grower, and is in business with his father in Morristown, New Jersey.

Roger DeBaun is editor at the New Jersey Experiment Station and College of Agriculture. He writes, "I've been editing bulletins and writing news stories ever since I left Cornell, five and a half years ago." He can be found at 574 George Street, New Brunswick, New Jersey.

Irene D. Dobroscky has been assistant entomologist and plant pathologist at the Boyce Thompson Institute, 1086 North Broadway, Yonkers, New York for four years. She took her Ph.D. at Cornell in September, 1928. She is living at 114 Palmer Road, Yonkers, New York.

Rodney C. Eaton, 77 Auburn Street, Auburndale, Massachusetts, is married and has two children, Rodney Chapin Eaton, Jr. and Elizabeth Burnham Eaton. At present he is in the general sales department of the Charles H. Tenney Company, managing directors of gas and electric companies.

He says: "From the salesmanagership of the Rockland Light and Power Company, Nyack, New York, I graduated to the executive offices on special work. Have been 'scout-mastering'; helped organize local oratorio society and was president of the Nyack Club."

John W. "Jack" Ford, 604 Fayette Bank Building, Lexington, Kentucky is district agent for the Pacific Mutual Life Insurance Company, and says he is "working like the devil in a very prosaic way". He tells us that W. D. Funkhouser '16, Morris Scherago '17, and D. G. Card '19, all ag college graduates are teaching in the University of Kentucky, at Lexington.

Florence Foster is now Mrs. Albert J. Durkee, and has two children, Jane Louise and William Albert. In 1923 she was assistant manager of the Braeside Tea Room, Homer, New York, and in 1924 and 1925 Florence held a similar position in the Sunflower Tea Room in Syracuse. In 1925 she was married and now lives at 8 North Main Street.

Wilhelmina K. Foulk is secretary in the office of the School of Science and Technology at Pratt Institute in Brooklyn. Her address is 823 Prospect Place, Brooklyn, New York.

Homer L. Hurlburt is operating a Standard Oil gas station at Interlaken, New York. He is married and has two children, Beverly Jean and June Phyllis.

Arthur Carroll Mattison is assistant superintendent of the Cambridge Prest-O-Lite Works. In 1924-1925 he lived on the Island of Crete, Greece. During 1926 he worked for the Chrysler Auto Company. He started for the Prest-O-Lite Company in 1927, first as student engineer in Detroit. His address now is 86 Buckingham Street, Cambridge, Massachusetts.

May Margaret Mattson is now teaching homemaking in the Girls' Part-Time School in Newburgh. She was formerly engaged in teacher-training work at Cornell and the University of Colorado, with one year in Chicago University and its environs. Her address is 61 Lilly Street, Newburgh, New York.

William Mears is working in the Statistical Department of Dow, Joves and Company, the publishers of the "Wall Street Journal."

Stephen J. Navin did graduate work in the University of Chicago in 1925. From 1926-1928 he was instructor of economics in the University of Illinois. He is now residing at 3 College Street, Hanover, New Hampshire and is economics instructor in Dartmouth College.

W. L. "Bill" Norman is now selling insurance for the New York Life Insurance Company. In September of 1928 he married Dorothy Weaver, '25. They are now living at 150 Broadway, New York. He recently returned from California via the Panama Canal where he attended the $400,000 Club Convention of New York Life.

Kenneth E. Paine is county agricultural agent at Jamestown, New York. He has been there since his graduation and "Jim" Davis '24 is with him as county forester. "Ken" Bullock '25, who has been assistant county agent in Ontario County, will be with Kenneth in the same capacity after January seventh.

Edith Partridge (Mrs. Raymond Newell) is now librarian in charge of the Library at the Research Laboratories, Eli Lilly and Company, Pharmaceutical and Biological Products Manufacturers. Her address is Apartment 20, 1401 North Pennsylvania Street, Indianapolis, Indiana. She was librarian of the poultry department at Cornell till July, 1928.

Eva Pepilnski (Mrs. Willard C. Drumm) is now living at Niverville, New York. For two years, she managed the Troy High School cafeteria. Willard took the Winter Course in 1922-1923. They have a 200-acre dairy farm. In addition two boys keep her busy, Robert W. two and a half years and Richard H. six months.

For five years Miles Pirnie taught ornithology at Cornell under Dr. Allen, and also did extension work in ornithology and mammalogy. In June 1928 he received his Ph.D. and since then has been ornithologist to the Game Division, State Department of Conservation of Michigan. He married Lucy Gay, a graduate of the University of Rochester. They have one girl, Cynthia Gay, age one year and a half. Their address is 316 East Michigan Avenue, Lansing, Michigan.

Howard R. Sebold is a landscape architect in the employ of A. F. Brinckerhoff, 101 Park Avenue, New York. He graduated from the Harvard School of Landscape Architecture in 1926. Since then he has been working in landscape offices in Boston and New York. He is also teaching a course in planting design at Columbia University. He is not married. His home address is 8 Beech Tree Lane, Bronxville, New York.

'24

Henry T. Buckman has "returned to the earth' and left the investment banking business in which he was formerly engaged in Wilkes-Barre, Pennsylvania, to grow fruit on a farm in Yakima, Washington.

Marvin A. Clark is now in New Jersey with the State Agricultural Extension Service. He put in some of his time last year traveling abroad. His address is 22 Hudson Street, Freehold, New Jersey.

Cecil Daley is a "hard working engineer instead of a farmer." The Ag College seems to fit people for almost any position. Cecil is married He is doing his engineering work for the New York Telephone Company. He is living at 113 East 167 Street, Bronx, New York City.

Kenneth "Ken" Lawrence is trying out his college education on his father's farm at Ellington, New York. He isn't married yet so there is still some chance for some of you girls.

Alfred J. Lewis, Jr. is in business with several other members of his family as Lewis Bros. at Walworth, New York. The business is growing celery, lettuce, beans, pickles, onions, carrots and selling spray materials and fertilizers, vinegar, and sauerkraut. They just recently purchased an addition to their already extensive farm. Before going into this business, 'Al' spent two years as production manager for Treat Creams of Paterson, New Jersey. He is married and has two children; Donald George and Harold Edwin. His address is Walworth.

Forrest E. "Woods" Mather has recently accepted the managership of the J. C. Penney farm at Cortland. Woods specialized in poultry while here and after graduation instructed in the department of poultry husbandry at New Hampshire State Agricultural College, following which he acted as manager of the Hollis Ridge Farm at Hollis, New Hampshire. Since then he has operated his own farm at Moravia until his recent acceptance of the position in Cortland.

I. H. "Chuck" Rodwell is selling New York Life Insurance in Rochester. He is married and has one child. His address is 9401 Winton Road, North.

Anna C. Rogers was married a little over a year ago to John P. William, a Pennsylvania State College graduate of '24. She is now doing extension work in home economics and her husband is an extension instructor in animal husbandry here on the hill. Their home is at 1017 East State Street, Ithaca.

'25

R. D. 'Dobbin' Reid has been occupying his time raising potatoes and dairy farming at Argyle. Last year he made a good crop of Green Mountains—207 bushel to the acre. This winter he is working for the college, closing cost accounts on farms in eastern and central New York and Long Island. His home is R. D. 1, Argyle, N. Y.

Henry P. Sexsmith is a broker, with Chittenden Phelps and Company, Incorporated, 200 Security Mutual Building, Binghamton, New York. He lives at 26 Murray Street.

Helen E. Watkins is now secretary of the Orange County Health Association where she is directing the nutrition service. She lives at 15 South Street, Goshen, New York.

'26

H. Alexander MacLennan married to Miss Mildred Taylor of St. Catherines, just a year ago, Ontario, a graduate of the University of Toronto in '24. During the winter months Alexander is managing director of the El Conquisador Hotel at Tucson, Arizona and in the warmer summer months he is manager of the Clifton in Niagara Falls, Canada.

Mr. and Mrs. Dean R. Marble announce the arrival of an eight pound baby girl on January 19. Her name is Jean Marie. Dean took the winter course here in '21-22, the regular course in '26 and his M.S. in '28. He is now instructing in the poultry department.

Dorothy A. O'Brien is connected with the Carbide and Carbon Chemicals Corporation of New York City. Her residence is at present at 159 Prospect Place, Brooklyn.

Arthur J. Pratt is back in Ithaca taking work in the new greenhouses in vegetable gardening.

Mr. and Mrs. George Westfall of Saratoga Springs have announced the engagement of their daughter, Rachel, to Truman A. Parish. Truman's home is in Franklinville.

F. Evelyn Greene is teaching in the Junior High School in East Otto, New York.

John Marshall Jr. visited in Ithaca during the Christmas holidays. He is traveling for the Co-operative Marketing Division of the U. S. Department of Agriculture.

Herbert L. Nickles was married on January 2 to Miss Hilda Williams of Toledo, Ohio. He is manager of the Fort Meigs Hotel in Toledo.

R. Donald Perine is answering complaints and handling technical correspondence with the W. Atlee Burpee Seed Company. His address is 5250 Spruce Street, Philadelphia. He was married in October to Miss Helen Phelps, daughter of Dr. and Mrs. H. E. Phelps of Carthage, New York.

Raymond M. Stearns is in the production department of the Frank G. Shattuck Company (Schraffts). He was married November 28 to Miss Mary Louise Singleton of Brooklyn. She is a graduate of the Packer Collegiate Institute. They are living at Apartment 6H, 6735 Ridge Boulevard, Brooklyn.

Lewis H. Steele is a poultryman on the Metropolitan Life Insurance Company Sanatorium Farm in Wilton, New York. His address is Box 14, Wilton. He was married last July to Miss Virginia E. Walker of Niagara Falls, New York.

Charles R. Taylor is traveling for the Lathrop-Paulson Company of Chicago.

'27

G. F. 'Gid' Britt has left his position as manager of the Genessee County Farm Bureau and has gone into the business of raising potatoes. He expects to raise 100 acres this year.

Marion Race is dietitian at the Alice Foote MacDougal Shoppe on 57th Street, New York City. She is living in an attractive little apartment with Eleanor Putnam '22 and Laura Griswold '28 in the Greenwich Village vicinity.

C. I. 'Chuck' Bowman has been transferred from Orleans County and is now manager of the Genessee County farm Bureau.

The engagement of Anna M. Van Deman to John Edward Bacon of Buffalo has been announced. Anna is at present head of the biology department at the Hamburg Junior High School at Hamburg. Her address is Box 50. She says that her sister Mary E. Van Deman is also engaged. The lucky man is Archie R. Woolley of New Haven, New York.

'28

Mildred L. Augustine is managing to while away the hours teaching domestic science in the Buffalo elementary schools. Mail will reach her at 138 East Utica Street, Buffalo.

Achsah A. Brill has been assistant administrative dietician since January first when she finished his graduate course in dietetics at the Strong Memorial Hospital, University of Rochester.

Virginia I. Carr is working in Ithaca for the Associated Gas and Electric System as assistant cashier. Her home is at 315 Dryden Road.

L. M. Freeland is traveling for Pennock and Company of Philadelphia selling florist supplies.

G. Harden Gibson dropped in one day and left a short account of himself. He is farming it with his father on the old home farmstead. They have 150 acres on which they raise Holstein cattle and Rhode Island Red hens. The farmstead is located at South Hartford in Washington County.

E. C. Masten has been promoted from assistant county agent at Mineola to county agent of Jefferson County.

J. C. "Jim Pettengill says he is a "contractor, building houses that are liveable and not artistic." He also tries to get four hours sleep a night, but now that his engagement is announced we know why, and hope he'll get more. His address is R. D. 2, Rochester, New York.

Gerald '28 and Elliot Rhodes '27 are raising ducks for the Buffalo market. They are raising other poultry and a few cash crops as a side line.

S. R. 'Rube' Shapley '28 who has been as assistant in Niagara County has been transfered to Genessee County. He is working on a legume campaign for the county.

'29

'Toby' Martino is now manager of "Four Winds Farm Nursery" at Williamsville, New York. His home address is 387 Eagle Street, Buffalo.

Eggs and The State

(*Continued from page 210*)

to grade their product or sell it, if at all, for the lowest price. Few people will buy a grade "C" product other than those who want them for baking or other cooking purposes and so in order to sell the eggs for eating purposes he must grade them. Once graded the consumer benefits because he knows what he is purchasing and can be at least reasonably sure he is getting that for which he is paying. The producer benefits because, if his eggs are graded he will receive the full value for the quality that he has produced.

ANOTHER part of the proposed amendment is the addition of subgrades on a basis of weight. This section

provides that all eggs weighing 20½ or less ounces per dozen must be labeled 'small' and all those averaging 24 or more ounces per dozen may be labeled 'large' in addition to the regular grades into which they fall. This is an attempt to repay the producer who produces a large egg at a greater cost to receive return for his additional efforts as well as to protect the consumer who buys eggs by number not weight from paying an exceptionally high price for fine quality eggs only to find that they are small peewees.

The law, if amended, will undoubtedly be a decided aid to the consumer and producer alike. But, as is the case with the present law, if it is unenforced, conditions will be unchanged. The housewife will be forced to continue her wariness and careful selectiion and will even then oftentimes be disappointed in the purchase of eggs.

The producer can insure himself the best returns for his eggs by candling his own product. The law does not require the producer to grade eggs he sells that have been produced by his own hens. If he does not grade his eggs he will have to accept the grading of the buyer and take what he is offered which may or may not be the true value of the eggs. Fresh eggs are easily candled and if they are graded the producer can tell the buyer what grade they are and not have to accept what may possibly be the short end of a deal. Practically all eggs ordinarily produced on the farm will easily meet the grade 'A' requirements and can safely be labeled as Grade 'A' Strictly Fresh, provided they have been candled and all blod clots, meat spots or other inedibles removed. The work itself would be found very interesting by the farm boys and girls who could very easily be trained to detect the inedibles before the candle and remove them. A little time thus spent will well repay itself in the greater returns, not entirely from better grades, but also in greater confidence established by the regular unfluctuating quality product delivered.

National Egg Week is coming May 1-7. What better way can producers celebrate the event than to initiate a candling and grading program to continue throughout the year. Once started it will more than repay for the trouble as before stated. For consumers, think of the many delightful dishes based upon eggs—the wholesome, vitamin containing, protein-rich food, that can be made if the distrust of an occasional doubtful egg is removed. To get such eggs, of good quality, insist upon standard graded eggs, and if you get them from a reliable dealer you can rest assured that they will be what you pay for. By establishing these grades and starting a policy to enforce them, the State has recognized the evils of the former hit and miss system and has attempted to remedy its faults and guarantee the consumer the quality for which he pays and the producer the pay for the quality he produces.

Use and Abuse of Protein

(*Continued from page 207*)

different amino acids. Furthermore, they cannot manufacture in their bodies any missing amino acids from other amino acids in their food, with the possible exception of the very simplest ones. Therefore, they must have in their feed an ample supply of all the other amino acids, or growth will be checked, production lowered, or even health destroyed.

The next important thing to remember is that the proteins of all of the cereal grains are of the same general kind or composition. All of the grains are low in some of the essential building stones, or amino acids, which an animal needs to build its body tissues, or which a cow needs to produce milk. On the other hand, milk protein contains all of the amino acids in the right proportion for the use of animals.

If a farmer does not know whether he is feeding a balanced ration or not, and he has not learned how to figure out such a ration, there is nevertheless no reason why he should remain in doubt. If he is fortunate enough to live in a county which has a county agent, he will find this man glad enough to help him. Otherwise, he can get advice from the Agricultural College or from his farm paper. In 1929 there is no excuse for feeding inefficient, unbalanced, rations.

Previous to 1915 the old German feeding standards originally prepared by Wolff in 1864 and revised slightly by Lehmann in 1896, were generally still taught to students of live stock feeding in this country and were commonly used in balancing rations for most classes of live stock. These standards were prepared before the development of modern live stock experimentation and were naturally inaccurate and incomplete. They did not meet many American conditions. I formulated feeding standards in 1915 for the various classes of live stock, which have come into general use since that date.

These standards were based upon recent investigations conducted by various scientists at various institutions to determine the nutrient requirements for the various classes of live stock.

The recommendations for dairy cows in these standards are based mainly upon the investigations and the feeding standards of Haecker and Savage. To show the level of protein recommended, it may be stated that for a cow producing one pound of butter fat daily a nutritive ratio somewhere between 1:7 and 1:6 is advised. For higher producing cows, narrower nutritive ratios are recommended, in accordance with their actual production.

Recent investigations by Hills and associates at the Vermont Station and by Hayden and associates at the Ohio Station have shown that cows will give fair productions of milk and butter fat on lower allowances of protein than have thus far been recommended in feeding standards. However, we must bear in mind that the dairy cow that produces a *large* amount of milk is usually the cow that returns the greatest profit. I do not feel that it has yet been definitely shown that good dairy cows will yield as large and as profitable a production on a very low allowance of protein as they will when fed according to the recommendations of the present feeding standards. Consequently, I would not advise feeding less protein than advised in such standards, unless perhaps

under conditions when protein-rich feeds were temporarily extraordinarily expensive in comparison with feeds low in protein content.

Recently a few men have attacked the idea of balanced rations in the public press. In particular one prominent feed manufacturer has pointed out certain well-known facts just as if they had been recently discovered and on this basis has sought to discredit the idea of balanced rations.

He has pointed out that animals fed only sufficient feed for maintenance digest their feed somewhat more thoroughly than those being fed a liberal productive ration. This is no new discovery, but has been known to scientists for many years.

Furthermore, he points out that practically all the digestion trials conducted by the various experiment stations to determine the digestibility of different feeds have been carried on with sheep or steers fed limited rations. Consequently, the figures for the digestible nutrients in a given feed, computed on the basis of such digestion trials, are higher than they should be in the case of a liberally fed animal, such as a dairy cow fed on good a ration.

This is all true, and, moreover, has been long known. This man fails to point out at the same time that *modern feeding standards have been devised so that they take these very facts into consideration.* In other words, rations balanced according to modern standards do give good results and efficient results with the various classes of live stock.

This feed manufacturer has sought to convey the idea to farmers that neither they nor their farm organizations can safely and efficiently work out balanced rations for their stock, but that they can feed their stock adequately only by purchasing certain brands of mixed feeds, such as he manufactures. This is, of course, absurd.

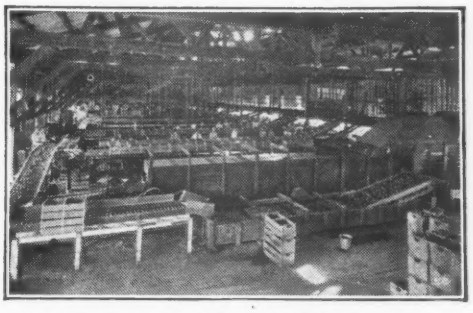
In this connection it should be pointed out definitely that no feeding standard can yet make recommendations with regard to such factors as quality of proteins, mineral nutrients, and vitamins. Our knowledge concerning these recent discoveries in nutrition is too recent and too fragmentary to enable us to put down these new factors in stock feeding in mathematically expressed feeding recommendations.

This does not mean that we should abandon feeding standards. They are still as necessary as ever. We must use them intelligently, however, bearing in mind that a feeding standard indicates merely the proper amounts and proportions of protein and other common nutrients in a ration. In addition to a proper "balance" of protein and total digestible nutrients, we must see that the ration furnishes the right kind of protein and that it provides the proper mineral nutrients and vitamins.

Florida is a national leader in winter-grown crops. Here's a field of snap beans.

A challenge to young men who plan to make farming a business . . . .

TO the serious-minded young man, especially to the graduate or under-graduate of agricultural colleges, there's a challenge in Florida's unbounded agricultural possibilities which offers an opportunity to exercise knowledge and skill for real profit in farming. Business men, you know, expect to make money. If you are one who plans to make farming a *business*—profitable, full of joy of achievement—you need the story about Florida.



Packing part of Florida's $50,000,000 citrus crop.

Investigate!

There's no better way of spending your summer vacation than loading up the car for a camping trip to Florida for personal investigation of this state's many agricultural opportunities. You'll enjoy a vacation unlike any you've ever had. It won't cost a lot—but it may mean much to you in planning your future. Be sure to send for facts about agricultural subjects you are most interested in. There's a handy coupon below.

Silver Springs, the world's largest, a year-round scenic attraction. Glass bottom boats ply the crystal-clear waters.

Spend this Summer's vacation in

FLORIDA

GREAT SEAL

THE SUNSHINE STATE

Mail this coupon for booklets or facts

Department of Agriculture, Tallahassee, Florida.
Please send me information about

_____ (subject)

Kind of farming most interested in _____

Name _____

Address _____

Ag. Col. Pub.

An official advertisement authorized by the Legislature

Devoted to Local Events

The Campus Countryman

Around the Top of "The Hill"

Volume X | Ithaca, New York, April 1929 | Number 7

AG BASKET TOSSERS WIN IN INTERCOLLEGE CHAMPION RACE

Swimmers Lose to Arts Colege Team in Meet at Old Armory Pool

AFTER the inter-college league had ended the basket-ball season with four teams tied for first place, the ag boys finally crashed through to the championship. Thursday night, March 14, they defeated the forestry team by one point. The next Saturday afternoon they clinched the title by defeating the law team. Those to whom the success of the team is largely due are: L. B. Andrews '31, D. A. Armstrong '30, R. E. Dudley '29, C. P. Katsampes '31, L. L. Lasher '30, R. L. Higley '30, and H. H. Fuller '29. The team deserves our heartiest thanks and praise for their efforts and final victory.

With the outcome of the meet depending on the result of the final event, the ag natators finally bowed, or should we say submerged, to the arts team. And so, Wednesday afternoon, March 30, found the arts team in first place in the swimming league with the ag men second. "Stan" Brooke '31 and "Bill" Ritter '30 turned in exceptionally fine performances. The other members of the team were, "Don" Aymar '29 and "Johnny" Larco '29.

Practicing at the Old Armory the other afternoon we found 15 ag men sweating over the oars—15 husky men, determined to bring back first place in the inter-college crew races Spring Day to the ag campus. Among last year's men we noticed "Al" Van Wagenen '30, "Stan" Bates '30, "Hank" Clapp '31, H. E. Travis '30, and W. H. Hoose '30. There were also several new men who seemed to be acquiring the necessary form and stamina, and what is more, they seemed no less determined than the old crew men.

AG "C" MEN

H. H. Benson
F. K. Beyer
B. S. Cushman
D. Hall
G. F. Homan
A. La France
G. J. Olditch
P. P. Pirone
F. G. Dulaff
R. G. Eldredge
S. R. Levering
L. H. Levy
O. R. Carvalho
E. I. Madden

TRACK MEN ACTIVE

Friday afternoon and Saturday, March 22-23, the ag trackmen overwhelmed the other colleges in the annual inter college track meet, scoring 73½ points. The M.E. boys came in second with 38½ points, while the art's team was third with 25 points. Schoenfeldt '32 was easily the outstanding star of the meet, scoring five first places and one fourth for a total of 27 points. He placed first in the pole vault, the shot put, the high jump, the 25 pound weight, and the discus throw. Phillips '32 won the 70-yd high hurdles, Eckert '32 the 10 lap race, and Pattison '30 the 15 lap race. The other ag men scoring were: Michael '32, Brooke '31, Winer '32, West '29, Redington '32, Higley '32, Lambert '32, and Martinex '32.

Now that the winter sports season is over, it is up to the spring sports men to keep up the good work of the ag teams. So all you ball tossers get out and limber up your alls for the umpire will soon be calling "Play Ball."

AG BASKETBALL TEAM FOR 1929

EZRA CORNELL TO OPEN MAY 3 IS ONLY HOTEL OF ITS TYPE

Hotel Men and Alumni to be Guests at Third Annual Practice Hotel

MEMBERS of the executive staff of the Hotel Ezra Cornell announce that the annual student hotel-for-a-day will be opened in Willard Straight Hall on Friday, May 3. This year's opening will consist of the usual formal dinner, the theatre entertainment, and the dance. In addition an exhibit of the material of both laboratory and lecture courses will be shown in Willard Straight and in the laboratories. Friday afternoon there will be a tea for the visiting ladies. There will also be golf on the Country Club course that afternoon and in the event of rain a motion picture entertainment is planned. "Although the hotel is closed officially late Friday night, festivities for the alumni and visitors will be continued until Saturday afternoon.

The luncheon of Friday will be held in Willard Straight as a get-together for alumni, visiting hotel men, parents, and the faculty and students. The men's lounge will be used for the display of the courses. Wall charts will show diagramatically the entire curriculum of the courses in Hotel Administration, the courses by subjects, the geographical distribution of the students and alumni. In the alcoves will be placed the text-books, mimeograph material, laboratory reports and typical student note-books. From these the visitors can gain an idea of which of the laboratories they care to visit. There will be demonstrations in cooking, engineering, meat slaughtering and cutting, and a display of accounting sets in the laboratories.

Formal Dinner Planned for Guests

The formal six-course dinner is planned, prepared, and served entirely by the student body. Stephen W. Allio, Jr., son of the chef of the Hotel Pennsylvania, New York City, is the chef.

Three short plays will be presented in the university theatre by the Cornell Dramatic Club immediately after the dinner, the entire house being reserved for the guests of the Hotel Ezra Cornell.

"Ed" Ballatine's 10-piece orchestra from Syracuse, which gained fame on the Cornell campus during Junior week this year, will furnish the music, and is proving to be a big drawing card with the student body. This dance has been approved by the university faculty until three A. M.

The Cornell Society of Hotel Men, the alumni organization, is expected to be well represented. On Saturday morning they will hold a breakfast and business session, which will be open to visiting hotel men and seniors. Trips to Enfield and Taughannock will require the remainder of the time until the track-meet with M. I. T. and the base-ball game with Dartmouth.

Increasing numbers of hotel men, alumni, parents, faculty, and townspeople have been attending the three previous "openings." The early demand for tickets is far exceeding any previous year. The Hotel Ezra Cornell is unique, not only in that it is entirely managed by the students, but also in that it is the only hotel of its kind anywhere.

SPRING FLOWER SHOW TO BE HELD APRIL 27-28 IN MEMORIAL HALL

Unique Exhibition of Floral Arrangements Planned for Annual Demonstration

THE ANNUAL spring flower show will be held in Willard Straight Memorial Hall on Saturday and Sunday, April 27 and 28. This show is held under the auspices of Pi Alpha Xi with the co-operation of the department of floriculture and ornamental horticulture. It will take the place of the regular Sunday evening hour in Willard Straight that week.

The four corners of the lobby are to have a rock garden, exhibits of wild flowers, a model lawn, and dwarf evergreens. The upper terrace will be a lay out of a small home demonstrating the proper way to landscape such a home. In the main hall will be an exhibit of orchids, roses and potted plants. The exhibits of orchids and roses will be exceptionally good. At the west end of the hall there will be a tropical garden and fountain. The balcony will be effectively used for the display of a hanging garden. The central part of the hall will be occupied by arrangements of flowers demonstrating their use during the different stages of life. Exceptionally interesting will be the modern exhibit showing how flowers will be used in the future. The geographical exhibit will be an educational feature.

Invitations have been sent to retail florists and nurseryman. It is expected that many of the flowers will be secured from florists.

Saturday and Sunday afternoons and evenings the Cleft Club will furnish special music. The committees have been working hard to make this show surpass those of previous years. Those in charge of committees are: "Herb" Handleman '29 of publicity; P. P. Weekesser '29 of solicitation and social, "Joe" Johnston '30 in charge of Memorial Hall, J. B. Fleckenstein '30 of the hanging garden, Miss E. A. Reed '30 of sequence, G. A. Rathjen '30 of geographic display, "Zeke" Ruzcika '29 of tropical exhibit, C. D. Donoughue '30 of commercial display, Miss K. Bullock '30 of modern exhibit. L. C. Chadwick grad is general chairman of the Ornamental Horticulture exhibits, with J. A. DeFrance '29 grad in charge of the terrace, B. C. Blackburn '29 of the rock garden, B. E. Harkness '29 of the wild flower exhibit, Professor R. W. Curtis of the lawn exhibit, and Professor H. J. Hunn of the dwarf evergreens, as his assistants.

SPRAY INFORMATION SERVICE SCHOOL MEETS

The annual training school for the men engaged in conducting the spray information service in the various counties throughout the state was held from March 18-23 in the basement of Bailey Hall.

The spray information service is a method of supplying the farmers and especially fruit and vegetable growers with timely and reliable information about the best methods of protecting their crops from the ravages of insects and diseases. This service is carried on by the local Farm Bureau organizations with the co-operation of the College, and with extension workers of the departments of entomology and plant pathology. Correspondence, telephone, telegraph, and personal visits to the workers in the field furnish the "spray service men" with subject matter assistance.

At the spray service school the field assistants and county agents are given the latest information on improved methods of control of insects and disease. This information is based on the results of experimental work by the investigators in the experiment stations.

The first three days of the spray service school were devoted to giving the new field men a good grounding in the method of organizing and carrying on their work.

Professor H. H. Whetzel stressed the importance of the field worker being on the job early and late; the mastery of every possible detail of their work; and the need of the worker to be careful of the farmer's property. The successful field worker must be able to co-operate with and to understand the farmer.

Mr. L. R. Simons, county agent leader, showed the need of the utmost co-operation between the county agent and the spray service worker.

Among the other speakers were Dr. C. E. Ladd, Director of Extension, Professors C. R. Crosby, M. F. Barrus, and H. Glasgow. Professor F. Z. Hartzell, active in research work at the Geneva Station, gave a very helpful talk on oil spray.

TWENTY YEARS AGO

The second annual Farmer's Week program was heralded as the big event of the year. The outstanding feature of the week was the Corn Congress, exhibiting 475 entries of ten ears each.

EXTENSION SERVICE HOLDS ANNUAL CONFERENCE MARCH 25-29

The annual conference of all extension workers in New York State was held at Cornell the last week in March, 25-29. This conference brings together the county agricultural agents, the county club agents, home demonstration agents, subject-matter specialists, and administrators. One of the main objects of the conference is to secure better co-operation between all the county extension workers. In addition each group has there special sessions to study their individual problems.

There were three joint sessions for all the workers. Director C. E. Ladd addressed the first session on "Professional Improvement." He stressed the need of constant efforts to improve one's work. Dean A. R. Mann spoke to the second joint session on "Anticipations in Rural Progress." With the proper co-operation and effort, great advances should take place in rual communities during the next few years. Mr. H. J. Baker addressed the last joint session in the "Relative Effectiveness of certain Extension Teaching Methods. Most of the time, however, was occupied in the different problems of each individual group of workers.

FOURTH ANNUAL BARNYARD BALL TO BE HELD IN OLD ARMORY

It won't be long now until April 12 and the fourth annual Barnyard Ball. This year's affair is expected to far surpass those of previous years and the committees have worked hard toward this end. "Wes" Thomas and his orchestra will furnish the syncopations for the evening. The dance has been approved to last from 9:30 to 1:30. Dean and Mrs. A. R. Mann and Mr. and Mrs. A. W. Gibson will be the chaperones.

Now don't let Easter vacation make you forget to dig out your old straw bonnets, the overalls, the shoes, and the calico or gingham. Let's all turn out, talk our loudest, laugh our longest, dance our darndest, and make WLS wish its broadcasting station were in the old armory instead of Chicago for the Friday evening of April 12.

BATES ELECTED PRESIDENT OF ROUND-UP CLUB FOR COMING YEAR

Prof. H. A. Ross Emphasizes Seriousness of New York Milk Situation in Talk

SPEAKING before the Round-Up club, Professor H. A. Ross emphasized the seriousness of the milk shortage in New York State. At last New York City is preparing to do what farmers have long feared, extending the milk shed of the city to include mid-western states. It is believed that, unless the New York dairymen are acquainted with the acuteness of the shortage and thus aroused, and if New York cannot have full assurance that there will be no shortage this coming winter season, the milk shed will be extended next fall. In previous years shortage was prevented by the use of storage cream, the establishment of new plants in the territory, and increased production because of increased prices. But in 1928 the shortage was severe, many dealers being forced to ration the milk to their customers.

The demand for milk has increased rapidly the last few years and production has not kept pace, This is largely due, not to an insufficient number of cows, but to too many cows of low production and improper care and feeding of the dairy. Unless the New York dairymen can increase production by 7,000 cans a day, western products must come in. Surely it seems worth the effort of every producer to avail himself of all possible means of increasing his production. The College is ready to aid by dissemination of information on feeding and caring for the dairy cow.

The club also elected officers for the coming year at this meeting. "Stan" Bates '30 as president, "Al" Van Wagenen '30 as vice-president, "Fred" Norton '31 as treasurer, and "Dick" Merrell '31 as secretary were the officials chosen. It was decided that winners of cups for excellency in displaying livestock during Farmers' Week should hold them until this coming October when they must be returned to the an hus building. A trophy case will hold these trophies and it is hoped that interest in this contest will be aroused among the students. After the business came eats (capital E, please).

Mr. Karl B. Musser, Secretary of the American Guernsey Cattle Club, spoke at the last meeting of the Round-Up club for the current season, March 21. This club was founded in 1877 for the purpose of "jealously guarding the blood of the breed." A group of breeders in Pennsylvania, New York, and New England imported some Guernseys. For many years one man, W. H. Caldwell of Farmington, Connecticut kept all records and did all publicity work for these men. From this small beginning the club has grown to an active membership of 1500, a clientele of 25,000, and employing 75 clerks. Since 1901 the club has been doing advance registry work. They also publish a magazine for Guernsey breeders.

For some years milk dealers have realized that there should be a differentiation in the price of milk on the basis of fat content. Cornell did more than any other institution to bring about this plan. And now the Guernsey Cattle Club has a trademark to be given to those of its members whose milk products rank high in fat content and cleanliness. "And the time will come", said Mr. Musser, "when milk will be paid for according to its food value. In addition, pigmentation, one of the outstanding characteristics of Guernsey milk, will always command a premium price."

Domecon Doings

BRIGDEN SCHOLARSHIP IS AWARDED TO DOMECON SENIOR

Catherine Buckelew '29 of Holcomb, New York, was awarded the Carrie E. Brigden Home Bureau scholarship this year. The scholarship, which was founded two years ago by the New York State Federation of Home Bureaus to give aid to some exceptional student in home economics interested in becoming a home demonstration agent in this state, is supported by dimes contributed yearly by each home bureau member.

Miss Buckelew was chosen because of her high record in scholarship and activities, her knowledge of farm life and problems, and her interest in extension work. She is an active member of many student organizations, namely, the Women's Glee Club, the Agassiz Club, the Cornell 4H Club, the Home Economics Club. She is a member of the honorary societies of Pi Kappa Phi, Omicron Nu, and Sedowah.

For two summers she has been in charge of 4-H Club girls' camps in different counties in the state. During the summer of 1927 she held the position of nature study counselor and assistant director of several camps. Last year she was director of camps held in six counties.

The Bridgen scholarship was held last year by Lois Doren '28 who is now home demonstration agent in Cortland County.

DOMECON GIRLS ARE ACTIVE

At the mass meeting of all girls in the University on March 25 in Bailey Hall several home economics girls were elected to major positions in the Women's Self-Government Association for next year. Edith Nash '30 was elected president of one of the four units in the women's new dormitories, and "Pete" Talbot '30 of another one of the four units. Both girls were also chosen to be members of Mortarboard, the senior society. Frances Leonard '30 was elected president of next year's senior class; Catherine Blewer '31 is to be president of the junior class, and Edythe King '32 was elected president of the sophomore class.

SAINT PATRICK'S TEA GIVEN

A tea for all faculty and students in domecon was given by the Home Economic Club on March 20 from 3:45 to 5:00 in room 100. The dim light of the Saint Patrick's candles allured many people from their homeward path to stop for a cup of tea, a sandwich and cake. Mrs. Betten and Miss Blackmore were hostesses. Catherine Blewer '30 was in charge of refreshments for the affair.

SOCIETY INITIATES FOUR

The initiation of Omicron Nu was held in Risley Organization room at five-thirty, March 18. The initiates were: Frances Leonard '30, Beatrice Love '30, Hazel Reid '29, and Margaret Scheer '29.

The banquet was held in Risley red dining room immediately following the ceremony. Jean Warren '29 was toastmistress, Esther Young '29 welcomed the initiates, and Margaret Scheer gave the response. Miss Martha Van Rensselaer talked about the plans and proposed ideas for the new domecon building. The architect's plans are now being formulated and the work is to begin very soon.

OMICRON NU

Frances Leonard
Beatrice Love
Hazel Reid
Margaret Scheer

"Polly" Terwilliger '30 was elected chairman of Candle-lighting. The Candle lighting service is held annually the last part of May each year.

APPROPRIATION RECEIVED

The bill, providing for a new building for the College of Home Economics, which was recently passed by the New York State Legislature has been signed by Governor Roosevelt. The provisions of the bill are for a main central section to provide for the immediate needs of home economics work here, with the expectation of a future appropriation to complete the building. Actual construction of the building will be started very shortly.

CHANGE

We are living in an age of change, of innovation. One of the most interesting experiments, to our campus life at least, is that being tried by the arts college during block week. Formal classes for the most part have been abolished; no advance work is being given. In their stead there are informal conferences for review of the term's work. This plan is being tried to meet the pleas of those who desire the week before examinations for systematic review, uninterrupted by classes and new work. The success or failure of this plan depends almost entirely upon the student body. Will they take advantage of these conferences? Will they devote a reasonable portion of this week to study.

This plan has one condition that may arouse objections on the part of a few. No exemptions from examinations are to be made. Students whose grades may merit these exemptions may find this condition objectionable. But then, such students should have no dread of examinations. In addition, we doubt if systematic review of a term's work will harm anyone. To be brought face to face, as it were, with a course presented as an entity; to view it, not bit by bit, but united and interlocked with its various parts should be invaluable to all.

Let us on the ag campus, then, follow this plan with interest. Perhaps we can gather to ourselves the benefits of this plan, avoiding its errors and its failures.

HOME ECONOMICS CONVENTION OFFERED INTERESTING PROGRAM

The 9th annual meeting of the New York State Home Economics Association was held at the Hotel Commodore in New York on April 1 and 2. Edith Young '29, president of the Home Economics Club, was sent as the official delegate from Cornell to the convention. Other student representatives were from Russell Sage, Skidmore, Pratt, Buffalo State Teachers' College, and some other schools in the state.

They all became acquainted at the student breakfast at the Hotel Piccadilly on Monday morning, April 1. Later in the morning they met at the Hotel Commodore and discussed the activities of student clubs at the different schools. During the remainder of the day they attended talks and discussions on topics concerning the past, present, and future of home economics work. They received much value from the talks on "The Future of Home Economics for the Girl Under Fourteen, for the Girl over Fourteen, and for the Girl over Eighteen." Anna M. Cooley, president of the State Association, acted as chairman of the meetings throughout the day. In the evening the student theatre party enjoyed "Show Boat" at the Zeigfield Theatre.

Tuesday morning Miss Beulah Blackmore of Cornell conducted the meetings of the Association. Tuesday afternoon the student delegates, together with many of the leading people in home economics work in the state, journeyed to places of interest in the city. They visited the Good Housekeeping Institute, the Delineater Institute, the Herald-Tribune Institute, the Bohack Packing Plant, the Edison Lighting Institute, and the Homemaking Center of the New York State Federation of Women's Clubs.

PRACTICE GROUPS CHANGE

The home practice groups in the Home Economics Lodge and Apartment changed March 17, 1929. At this time Beatrice Jackson, Maybelle Curtis, Margaret Scheer, Lillian Myers, and Marian Walbancke went into the lodge for five weeks under the supervision of Miss Sannie Callan.

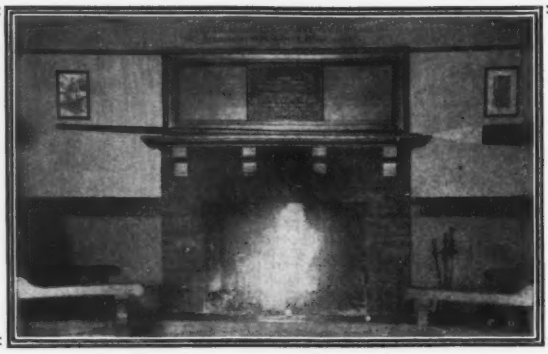
Marian Brockway, Clara Medders, Alice Blostein, Marian Burton, and Mildred Strong entered the apartment on the same day; the practice will continue until April 28, 1929. Miss Faith Fenton is in charge of the apartment.

WILL JUDGE LITERARY TALENTS

At the last meeting of Omicron Nu it was decided to hold an Essay Contest for all Freshman and Sophomore women. The topic is to be, "Should Every Woman in the University be Required to take some Home Economics Work?" All essays must be in by April 12. The first prize is ten dollars and the second, five dollars. The judges have not yet been announced.

Cornell Foresters

For the Disciples



Of Saint Murphius

SENIORS TAKE SECOND ANNUAL TRIP TO SOUTH CAROLINA

THE SECOND annual trip of the senior class into South Carolina was made during the past Easter Vacation. The seniors left Ithaca on Wednesday, of the last week in March for the sunny south, where they spent a week in the woods of South Carolina.

There was not set itinerary this year, consequently nearly everyone drove. The only requisite was to meet in Charleston on Saturday, March 30, where the group met Mr. C. J. Cherry, the president of the North State Lumber Company, whose woods operations were observed. The requisite was complied with, though the minor troubles on the trip might have turned into big ones, by "Archie" Budd and his chariot full, Franz Beyer and George Hepting in their horseless carriage, "Bob" Hallock and crew in his flying fleet, and "Joe" Slights and "Chuck" McConnell in their respective carriers.

Class Visits Charleston

The class went from Charleston about 45 miles up the Cooper River to a place near Witherbee, where Mr. Cherry had erected a building for their use and near the headquarters for his logging operations in that section. The commanding officer at Fort Moultrie detailed a cook for the camp so that good substantial loggers' food was served. The other necessary camp supplies were also furnished by the commandant for the use of foresters.

State Forester Staley, of South Carolina, Dr. Cary and Dr. Korstian, of the United States Forest Service, and President Cherry and other officers of the company were guests at the camp and the interest shown in the class was pleasing.

Before returning on April 10 the group had an opportunity of visiting the points of interest in the City of Charleston and nearby suburbs where they were cordially entertained.

The studies made by the class are expected to contribute directly to the advancement of forestry in this section of the south, particularly in the interest of forestry which is at the present time being evidenced there.

Those who made the trip under Prof. "Reck" Recknagel were "Paul Rudolf, "Max" Plice, and "Dave" Beatty, grad students, and "Frank" Beyer, "Archie" Budd, "Chet" Burnham, "Walt" Fleischer "Bob" Hallock, George Hedden, George Hepting, "Shanty" Hoffman, "Chuck" McConnell, "Joe" Slights, "Dave" Sowers, and Jim Van Natta.

Prof. Knudson in Botany 31—What would be the first step that you take to prove that plants need organic matter?

Irv Govshewitz—I'd fertilize the seed.

The Burning Log

A LETTER FROM A SAINT

Dear Fellers:

It was a long time ago since yez has herd from me but I'd shore hate ter think that yez doesn't remember yer old pal so I'll jest write a few lines ter let yer know that even here where the smoke chasers don't come so often thar's still a freind.

It seems thet them fellers that was chasing fire before has come here and are now chasin' other fellers to the fires while they sits back and laffs, playin' on ther' harps while the other fellers is doing the work. Seems like they ain't so many as used to be doin' the work.

Seems like I herd thet some of the boys ain't goin' to be with yez for awhile or so. I've herd that "Reck" Rechnagel is agoin' to Caliphornia to take a look at ther proposition and that Prof Fritz is a'comin' east ter see what yez're doing in the east. 'Tis indeed a good plan ter get the other feller's idea so's ter help yer schools. I've herd thet "Reck" ain't goin' to be with yez at Senior Camp ather but that some prof, Bryant ain't it, is goin' ter be thar instead, yez should have a good camp but 'twill hav' to travel mighty fur ter be better than what some of us old jacks has seen. But still the woods is the same and if yez has a good fire thet's all thet yez need but sphirit. Has this class thet shpirit? Yez'll have ter find out fer yerselves.

'Tis been a great while since I've herd of this Pack prize, thet one fer writin' the article. Seems thet thar's a lot of money for some one of yez in doin' thet job. 'Tis good pay for thet kind of book larnin', hardern' buckin' a couple thousand feet still bettern' no work a'tall. Yez aren't makin' the most of chances 'thout yez take a crack at it.

What's the news on these here southern fellers? Has they got cold feet from weather thar. Shtill thar's some good loggers south of the old Mason Dixon tho' thar's lot o' room for good cold blooded fellers thar. 'Tis well to look 'em over an' improve 'em some.

I've herd thet the fellers from Syracuse has invited yez over to ther big chuck throwin' 'long bout this time. Yez don't want ter look down on them fellers too much some o' them is all right loggers, 'tis a pity though thet yez don' know 'em better. Lots of good fellers go to the woods from thet town an' 'tis good yez will meet them. May hap yez could get them ter yer town some time fer a good party an' have 'em see yez in action. 'Twould do yez both some good.

As ye've probably seen I've changed me language some but thar's a blinkin' Englishman wot's come here an' tho' first we was enimies he's a pretty good feller now as he saved me one day when I shlipped and nearly fell to the fire chasers below. He has been tryin' ter teach me the king's English tho' I've knowed fer a long time thet the king was English.

I've jest had a hurry call from a logger, Pat McCarty in Los Angeles on one of these her weeji boards so I'll shtop fer now.

Yer old pard,
St. Murphius.

MEMBERS OF CLUB INVITED TO ANNUAL SYRACUSE CHOW PARTY

The Forestry Club of Syracuse has cordially invited interested members of the Cornell Forestry Club to Syracuse to participate in what they call a feed better than the regular classification of banquet. Cornell usually has one or more representatives at this affair and this year those who desire to attend are asked to see President McConnell for further deatils.

Our crew has begun on its campaign for victory and at present there are many huskies practicing daily for places in our boat. The prospects for this year are good, though there is a lack of coxswain material. It seems that the majority of our men are a little too husky for coxy. However, we expect another first this year.

WILL STUDY ARNOT FOREST

Professor Spaeth and his research assistant are patiently marking time until the Arnot Forest warms up and their experiments can be resumed. This season two stations will probably be set up in the two main forests types for the study of ecological factors, influencing the occurrence of certain timber types. These ecological factors will consist of atmospheric humidity, soil moisture, evaporation, air and soil temperature, and precipitation. Professor Spaeth expects that in about three years he will have sufficient data to draw conclusions concerning the occurrence of the present types.

PRACTICAL TALK GIVEN SENIORS AND FROSH COURSES 143 AND 3

Mr. James L. Crane, President of the Hope Lumber Company, Bridgeburg, Ontario gave an illustrated lecture to members of 143 and 3. Mr. Crane showed motion pictures of logging and milling operations in the white pine region of Ontario. The pictures were exceedingly interesting and instructive.

VISITING SPEAKER ENTERTAINS VEGETABLE GARDENING CLUB

The Vegetable Gardening Club held two very interesting meetings during March. Professor A. L. Wilson of the Farmington, Utah, Experiment Station gave on March 5 a very interesting and vivid picture of conditions in his state. Much of the land is arid and a comparatively small proportion is suited of vegetable production. However, in an extensive belt in the neighborhood of Salt Lake City the industry has developed on a large scale. Canning tomatoes, Spanish type onions, and celery that is good to eat are among the important crops.

On March 19, three members gave very interesting accounts of their experiences of the past summer. W. O. Sellers '30 was on the farm of Mr. Harold Simonson, Glen Cove, Long Island. Mr. Simonson is able to load $200 to $500 worth of vegetables on a huge truck for New York market each day during the season. His principal crops are cabbage and potatoes with a variety of other items. Sellers is quite excited over the possibilities in commercial vegetable production. Roland Babcock '32 is making his vegetable gardening carry him through college. He sells on the Chautauqua market and has learned the gardening game from the ground up. "Russ" Granger '29 was with the Perishable Inspection Service of the Pennsylvania Railroad at Buffalo and learned how to be hard boiled with the receivers who always have imposing damage claims. He reports that the railroad companies are striving for absolute fairness in claim adjustment and are engaged in extensive educational work to bring about better packing and loading with the object of reducing losses.

The activities of the Vegetable Gardening Club are in the hands of a committee of which E. L. Stock '29 is chairman, W. O. Sellers '30 is vice-chairman, with A. J. Pratt, grad student and G. A. Torruella '29 as right-hand men.

The Club is planning a number of meetings for the remainder of the year and students interested in this field are more than welcome at all sessions.

STUDENTS ATTEND OPENING OF HOTEL MARK TWAIN

Six members of the executive staff of the Hotel Ezra Cornell, the steward, the chef, the headwaiter, the manager, and the two assistant managers, attended the opening of the new Hotel Mark Twain in Elmira, Saturday, March 23, on the invitation of Mr. Horace W. Wiggans. Mr. Wiggans is the general manager of the new hotel, managing director of the Hotel Benjamin Franklin of Philadelphia, and president of the Continental Leland Hotels Corporation.

PROFS' PRANKS

Under the direction of Professor J. H. Barron, the extension workers of the Agronomy department are issuing a new bulletin based on the soil survey bulletins, but of a pratical rather than of a technical nature. This bulletin will contain practical discussion of the different soil types in each county, the means of maintaining soil fertility, and other helps to the practical farmer. Instead of waiting for the farmers to send in for these bulletins, a new plan is being tried, that of carrying these bulletins to the farmers.

KERMIS ELECTS NEW MANAGERS

"Al" Van Wagenen '30 was elected production manager of Kermis for next year at the last meeting of the Kermis Committee in March. E. M. Smith '31 was elected assistant manager and "Giff" Hoag '31 assistant stage manager under "Walt" Schait '30 stage manager. The treasurer submitted the following financial report:

Assets		
Ticket Sale	$448.00	
Cash on hand January 1, 1928	232.35	
		685.85
Liabilities		
Coaching	100.00	
Advertising	72.75	
Programs and tickets	55.00	
Properties	49.36	
Royalties	10.00	
Miscellaneous	112.15	
		398.26
Balance on hand, March 15, 1929		282.09

Professor J. E. "Jimmie" Rice has been traveling considerably around the country, notably to Washington where he has been arguing with the senators about tariff for poultry products. He has also been in Albany in conference with the state department about the establishment of the proposed new egg-laying contest plant at Horseheads in Chemung County.

CAMPUS CHATS

THE AG HOME ECS.

We are all more or less acquainted with the misunderstanding and friction that has existed between the Colleges of Home Economics and Agriculture in the past—likewise that between the various groups in these two colleges. As yet no plan of government or organization has been adequate to prevent this. We have now a new organization, known as the Agriculture-Home Economics Association. The purpose is "to promote social understanding between students and faculty of the two Colleges." It is believed that this can be accomplished by means of social "get-to-gether" events throughout the year.

There are several features in this new organization. Every student in each College is an active member; associate members are alumni and faculty of each college. Besides the president, vice-president, secretary, and treasurer, the executive committee shall consist of one delegate from the following societies: Omicron Nu, Sedowa, Helios, Heb-Sa, The Home Economics Club, The Forester's Club, The Cornell Countryman Board, the Round Up Club, and the Floriculture Club. All officers are to be elected by ballot, their nomination being secured by petition.

This new organization, no matter how far it may surpass our previous ones, cannot be successful without co-operation. They must select capable delegates to represent their interests and who will work for the welfare of the organization.

Do the students of these two colleges want a real live organization, one that will go far in making our colleges outstanding on the campus? Don't leave it for the other person to do. Get in yourself and boost!

TIME, TIME, TIME

Time, time, time, there doesn't seem to be enough for everyone or one could hardly believe there was to hear the same cry many times a day "I can't do that, I don't have time." Yet everyone has the same amount, twenty-four hours each day and we all have the same opportunities. It is interesting to note the types of people in the University as regards time. There are those who have time to do everything and those who never have time to do anything. Why is this so, simply because some have learned the little secret of making every minute count and who know that service to others reaps a fuller, better life in the long run than having mere personal gain as a motive. Who are the most interesting to talk to? The ones, of course, with wide experience. Who will make the best citizens and reach the highest point in life? Again we have the same answer. These are the persons who will be the best farmers, lawyers, doctors, statesmen, and dietiticians. We may ask why—only because they have learned other things than those which we find in books. They have varied experiences and not a narrow channel of specialized book learning. They know how to do things for others as well as themselves and are of a greater value to mankind. It is also a known fact that those who usually get the farthest in the world have the biggest handicaps. These people should be examples to us but instead, most of us go on, blindly seeking our own selfish ends and never have time to do anything for anyone.

THIS 'ERE AND THAT 'AIR

Uncle Ab says that what some people call "loose thinking" is better than none at all.

But now listen to this thinking. A civics teacher was correcting her exam papers. One read: "The government is tightening down on bootleggers. Also measures are being taken to break up roadside "necking" parties, and in many sections dance halls are under strict observation." "Good Lord", said the teacher, "what question does this answer?" The question was: "Describe the activity of the government in the conservation of wild life."

Now that we are faced with a serious shortage of fall milk and the resulting danger of the influx of western milk, we must take immediate steps to protect ourselves. One means is to delay freshening of cows until the late summer or fall months. Feeding can't be neglected either. And don't forget the care—no cow can produce her best if uncomfortable.

Spring's just around the corner folks, reminding us of apple-blossom time. What are you doing to insure adequate cross pollination in your orchards? A colony of bees for each acre, scattered throughout the orchard, will be much more satisfactory than trusting to luck.

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